Guidelines For Estimating

Swine Farrow-Wean to 5 kg Costs

Based On 600 Sows 13,804 Pigs Sold

Date: March, 2006

This publication is intended to provide a format and a set of guidelines for determining the cost of production for a swine farrow to 5kg enterprise. This operation is intended to represent the first stage of a three stage system. Adjustments will be necessary when applying these figures to your enterprise.

The assumptions on which the costs are based are outlined in the supporting pages. These assumptions were arrived at using the breeding stock, management practices, and facilities seen in modern, well managed swine operations of comparable size in Manitoba. Productivity and performance assumptions are based on information collected by department specialists, feed companies and other organizations. Where individual herd productivity and performance levels differ from those listed, adjustments will be required.

Accurate, up to date, production and financial records are essential for the effective application of these guidelines to an individual operation. Without such information accurate cost of production projections cannot be determined.

The guideline can be useful for comparison purposes. Comparison of costs at different levels of production can be made with other farms, the farm over a period of time or comparing the plan with the actual results at the end of the planning period.

Disclaimer: This budget is only a guide and is not intended as an in depth study of the cost of production of this industry. Interpretation and utilization of this information is the responsibility of the user. If you require assistance with developing your individual budget, please contact your local MAFRI office.

Farrow-Wean to 5 kg Pig Cost of Production

The following farrow wean to 5 kg cost of production budget is **based on the assumption that all feed is purchased.**

The budget also includes a land investment cost based on the assumption that 160 acres would be required for this size of operation, with 140 acres being rented out at $25 per acre.
The rations illustrated in this budget are examples only. Individual farm conditions should be taken into account when formulating the diets. Producers need to know what the feed intakes of their animals are. Please consult with a nutritionist for diet formulation suggestions.

The Manitoba pork production industry profile is changing and this budget was specifically designed to address the need of producers who may want to analyze the cost of starting up or switching to a farrow wean 5 kg operation. Several companies are offering contracts with varying levels of guarantees. Producers need to accurately calculate their costs before they can properly make a decision.

600 Sow Farrow-Wean to 5kg Cost of Production Summary
March, 2006

A. Operating Costs	$/Pig Sold	$/Sow	Total Cost	Your Cost
1. Feed Costs:				
1.01 Sow Lactation Ration	$2.51	$57.76	$34,648	
1.02 Sow Gestation Ration	$7.47	$171.88	$103,116	
1.03 Boar Ration	$0.41	$9.43	$5,660	
1.04 Creep Feed	$1.47	$33.82	$20,292	
Total Feed Cost	**$11.86**	**$272.89**	**$163,716**	
2. Other Operating Costs:				
2.01 Veterinary Medicine & Supplies:	$1.27	$29.22	$17,531	
2.02 Maintenance & Repairs	$0.36	$8.28	$4,969	
2.03 Hydro & Propane	$2.42	$55.76	$33,450	
2.04 Insurance	$1.38	$31.79	$19,072	
2.05 Manure Costs	$1.13	$25.97	$15,582	
2.06 Office Supplies	$0.09	$2.00	$1,200	
2.07 Marketing & Transport.	$1.19	$27.38	$16,427	
2.08 Sow Replacement	$3.46	$79.61	$47,762	
2.09 Boar Replacement	$1.16	$26.62	$15,973	
2.10 Property Tax	$0.33	$7.50	$4,500	
Subtotal Operating Costs	$24.64	$567.02	$340,182	
2.11 Interest on Operating Costs	$0.31	$7.24	$4,343	
Total Operating Costs	**$24.96**	**$574.26**	**$344,525**	
B. Fixed Costs				
3. Depreciation:				
3.01 Buildings & Manure Storage	$1.79	$41.19	$24,709	
3.02 Equipment	$2.78	$63.97	$38,375	
Total Depreciation Cost	**$4.57**	**$105.16**	**$63,084**	
4. Investment:				
4.01 Land Cost	$0.12	$2.67	$1,600	
4.02 Buildings & Manure Storage	$0.85	$19.62	$11,772	
4.03 Equipment	$0.68	$15.64	$9,381	
4.04 Breeding Herd	$0.71	$16.40	$9,839	
Total Investment Cost	**$2.36**	**$54.33**	**$32,592**	
Total Fixed Costs	**$6.93**	**$159.49**	**$95,676**	
C. Labour				
Wages, benefits and hired manager	**$7.12**	**$163.83**	**$98,284**	
Total Cost of Production	**$39.01**	**$897.58**	**$538,485**	

Break-Even Price	$/Pig	
Operating Cost	$24.96	
Operating & Labour Cost	$32.08	
Operating, Labour & Fixed Cost	$39.01	

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Farrow to 5 kg Pig Production Costs

1. This input table outlines the production assumptions used.
2. Buildings and equipment are valued at new cost.
3. Manure haulage is contracted out.
4. Gilts are purchased for herd replacement.

Indicators of Productivity

Sows	**600**
Boars	**30**
Litters/Sow/Year	**2.35**
Average Weaning Age (days)	**20**
Average Born Alive per Litter	**11.10**
Percent Pre-Weaning Mortality	**10.0**
Percent Post-Weaning Culls	**2.0**

Herd Profile	**Total**	**/Sow**	**/Litter**	**%Mortality**
Sows	600			
Boars	30			
Litters	1,410	2.35		
Pigs Born Alive	15,651	26.09	11.10	
Pigs Died, Pre-Weaning	1,565	2.61	1.11	10.0
Pigs Weaned	14,086	23.48	9.99	
Pigs Culled	282	0.47	0.20	2.0
Weaner Pigs Sold	13,804	23.01	9.79	

Feed Requirements and Costs			**Purchased**	**Home-Mixed**
Sow Gestation Ration	**2.3**	kg/day	**$205.00**	$0.00
Sow Lactation Ration	**6.0**	kg/day	**$235.00**	$0.00
Boar Ration	**2.5**	kg/day	**$205.00**	$0.00
Creep Feed	**1.0**	kg/pig	**$1,300.00**	$0.00

Labour

Total Hours per 7-day week	**135.0**	hours/week
Wage (includes benefits & hired manager)	**$14.00**	/hour

Sow Barn Capital Investment

		Sq.Ft. [1]	$/Sq.Ft.	Total	/Sow	Your Cost
Buildings						
Gestation		16,200	$18.80	$304,560	$507.60	
Farrowing		6,457	$21.40	$138,188	$230.31	
Office & Loading		200	$27.50	$5,500	$9.17	
Standby Generator				$25,000	$41.67	
Feed Mill (building only)				$0	$0.00	
Total Building Cost				$473,248	$788.75	
Equipment [1]						
Gestation			$16.75	$271,350	$452.25	
Farrowing			$22.00	$142,062	$236.77	
Fire Alarm System				$3,000	$5.00	
Feed Bins (4 bins)				$10,000	$16.67	
Feed Mill (equipment only)				$0	$0.00	
Total Equipment Cost				$426,412	$710.69	
Total Buildings and Equipment Cost				$899,660	$1,499.43	
Breeding Stock						
Value of Replacement Sow		$350	/sow	$210,000	$350.00	
Value of Replacement Boar		$1,200	/boar	$36,000	$60.00	
Total Breeding Stock Cost				$246,000	$410.00	
Land Value						
Land Investment	20 acres @	$500		$10,000	$16.67	
Other Costs						
Site Preparation				$30,000	$50.00	
Manure Storage				$38,000	$63.33	
Total Other Costs				$68,000	$113.33	
Total Capital Investment				$1,223,660	$2,039.43	

[1] FOOTNOTE: The number of sqare feet allocated for buildings and equipment are approximations. Cost per sow for buildings and equipment will vary around the province.

FOOTNOTE: 1 sq.ft. = 0.0929 sq.m; 1 sq.m.= 10.764 sq.ft.; 1 ft.= 0.3048 m

Feed Ingredient Costs

Ingredients	Price/tonne	Your Cost
Wheat	$135	
Barley	$120	
Corn	$170	
Soybean Meal	$290	
Canola Meal	$165	
Peas	$130	
Creep Premix	$850	
Sow Micro Premix	$3,000	
Grower Micro Premix	$2,500	
Canola Oil	$900	
Whey Powder	$800	
Herring Meal	$1,500	
Plasma	$7,500	
Limestone	$80	
Dical (16% Ca-21% P)	$455	
Salt - 96%	$125	
Phytase	$11,000	
L-Lysine HCL	$2,500	
L-Threonine	$4,800	
DL-Methionine	$4,500	
Oats - Steam rolled	$400	
Processing Cost		
(Hydro,repairs/maintenance & insurance)	$3.25	
Percent Weight loss due to processing	1.25 %	
Labour Cost	$4.00	

Ration Formulas	Dry Sow (kg)	Nursing Sow (kg)	Boar Ration (kg)	Creep Ration (kg)
Wheat	259.00	568.70	233.64	0.00
Barley	539.00	200.00	539.00	0.00
Corn	0.00	0.00	0.00	139.75
Soybean Meal	0.00	196.00	0.00	116.59
Canola Meal	80.00	0.00	102.00	0.00
Peas	91.00	0.00	91.00	0.00
Creep Premix	0.00	0.00	0.00	0.00
Sow Micro Premix	5.00	5.00	5.00	5.00
Grower Micro Premix	0.00	0.00	0.00	0.00
Canola Oil	0.00	0.00	0.00	20.00
Whey Powder	0.00	0.00	0.00	100.00
Herring Meal	0.00	0.00	0.00	60.00
Plasma	0.00	0.00	0.00	58.00
Limestone	10.00	12.00	12.00	12.23
Dical (16% Ca-21% P)	11.00	12.00	12.00	9.43
Salt - 96%	3.50	5.00	3.50	3.50
Phytase	0.50	0.50	0.50	0.00
L-Lysine HCL	1.00	0.80	1.36	0.50
L-Threonine	0.00	0.00	0.00	0.00
DL-Methionine	0.00	0.00	0.00	0.00
Oats - Steam rolled	0.00	0.00	0.00	475.00
TOTAL (kg)	1,000.00	1,000.00	1,000.00	1,000.00

Feed Requirement and Cost Summary

Sow Gestation & Boar Ration:	Amount (kg)	Ingredient Price ($ /tonne)	Ration Cost ($ /tonne)	Your Cost
Wheat	259.0	$135.00	$34.97	
Barley	539.0	$120.00	$64.68	
Canola Meal	80.0	$165.00	$13.20	
Peas	91.0	$130.00	$11.83	
Sow Micro Premix	5.0	$3,000.00	$15.00	
Limestone	10.0	$80.00	$0.80	
Dical (16% Ca-21% P)	11.0	$455.00	$5.01	
Salt - 96%	3.5	$125.00	$0.44	
Phytase	0.5	$11,000.00	$5.50	
L-Lysine HCL	1.0	$2,500.00	$2.50	
Total Dry Sow	**1,000.0 kg**		**$153.93**	
Adjusted For Weight Loss		1.25 %	$155.85	
Plus Processing Cost		$3.25	$159.10	
Plus Labour Cost		$4.00	**$163.10**	
Sow Lactation:	568.7	$135.00	$76.77	
Wheat	568.7	$135.00	$76.77	
Barley	200.0	$120.00	$24.00	
Soybean Meal	196.0	$290.00	$56.84	
Sow Micro Premix	5.0	$3,000.00	$15.00	
Limestone	12.0	$80.00	$0.96	
Dical (16% Ca-21% P)	12.0	$455.00	$5.46	
Salt - 96%	5.0	$125.00	$0.63	
Phytase	0.5	$11,000.00	$5.50	
L-Lysine HCL	0.8	$2,500.00	$2.00	
Total Nursing Sow	**1,000.0 kg**		**$187.16**	
Adjusted For Weight Loss		1.25 %	$189.50	
Plus Processing Cost		$3.25	$192.75	
Plus Labour Cost		$4.00	**$196.75**	

Creep Ration:				
Corn	139.8		$170.00	$23.76
Soybean Meal	116.6		$290.00	$33.81
Sow Micro Premix	5.0		$3,000.00	$15.00
Canola Oil	20.0		$900.00	$18.00
Whey Powder	100.0		$800.00	$80.00
Herring Meal	60.0		$1,500.00	$90.00
Plasma	58.0		$7,500.00	$435.00
Limestone	12.2		$80.00	$0.98
Dical (16% Ca-21% P)	9.4		$455.00	$4.29
Salt - 96%	3.5		$125.00	$0.44
L-Lysine HCL	0.5		$2,500.00	$1.25
Oats - Steam rolled	475.0		$400.00	$190.00
Total Creep	**1,000.0**	**kg**		**$892.53**
Adjusted For Weight Loss			1.25 %	$892.76
Plus Processing Cost			$3.25	$896.01
Plus Labour Cost			$4.00	**$900.01**

Production Cost Worksheet

A. Operating Costs			Your Cost
1. Feed Requirements and Costs			
1.01 Sow Lactation Ration			
	20	days average weaning age	
x	2.35	litters/sow/year	
=	47.0	days lactation	
x	6.0	kg ration/day	
x	$205.00	/tonne ration	
÷	1,000	kg/tonne	
÷	23.01	pigs/sow	
=	**$2.51**	**/pig sold**	
1.02 Sow Gestation Ration			
	365	days/year	
-	47.0	days lactation	
=	318.0	days gestation	
x	2.3	kg ration/day	
x	$235.00	/tonne ration	
÷	1,000	kg/tonne	
÷	23.01	pigs/sow	
=	**$7.47**	**/pig sold**	
1.03 Boar Ration			
	365	days	
x	2.5	kg ration/day	
x	$205.00	/tonne ration	
÷	1,000	kg/tonne	
x	30	boars	
÷	600	sows	
÷	23.01	pigs/sow	
=	**$0.41**	**/pig sold**	
1.04 Creep Feed			
	1.0	kg ration/pig	
x	$1,300.00	/tonne of creep feed	
÷	1,000	kg/tonne	
x	26.09	pigs born alive/sow/year	
÷	23.01	pigs/sow	
=	**$1.47**	**/pig sold**	

2. Other Operating Costs

2.01 Veterinary Medicine & Supplies

	$7.25	/sow professional services	_____
+	$22.00	/sow medication	_____
+	23.01	pigs/sow	_____
=	**$1.27**	**/pig sold**	_____

2.02 Maintenance & Repairs

	$1,499.43	/sow building & equipment cost	_____
x	0.55	% repair & maintenance	_____
+	23.01	pigs/sow	_____
=	**$0.36**	**/pig sold**	_____

2.03 Hydro & Propane

	$10,000	hydro	_____
+	$23,450	propane	_____
+	13,804	pigs marketed	_____
=	**$2.42**	**/pig sold**	_____

2.04 Insurance

	$899,660	buildings & equipment	_____
x	$0.78	/$100 capital	_____
+	100		_____
+	13,804	pigs marketed	_____
=	$0.51	/pig sold	_____
	$246,000	breeding stock	_____
+	$483,140	weaners	_____
x	$0.88	/$100 capital	_____
÷	13,804	pigs marketed	_____
=	$0.46	/pig sold	_____
	$1,200	business interruption coverage/sow	_____
x	600	sows	_____
x	$0.78	/$100 capital invested	_____
÷	13,804	pigs sold	_____
=	$0.41	/pig sold	_____
=	**$1.38**	**/pig sold**	_____

2.05 Manure Costs

Haulage	19.0	litres/sow/day	_____
x	$0.002	/litre	_____
x	365	days	_____
+	23.01	pigs/sow	_____
=	$0.60	/pig sold	_____

Odour control	$7,300	total costs	
÷	13,804	pigs marketed	
=	$0.53	/pig sold	
Total =	**$1.13**	**/pig sold**	

2.06 Office Supplies

x	$2.00	$/sow	
÷	23.01	pigs/sow	
=	**$0.09**	**/pig sold**	

2.07 Marketing & Transportation & Board Levy

	$1.00	marketing & transportation	
÷	$0.19	board levy	
=	**$1.19**	**/pig sold**	

2.08 Sow Replacement

	180.0	kg/sow (cull weight)	
x	$84.00	/100 kg live	
=	$151.20	/sow value of cull	
	$350.00	/sow value of replacement	
-	$151.20	/sow value of cull	
=	$198.80	net replacement cost	
x	40.00	% sow culling rate	
÷	23.01	pigs/sow	
=	**$3.46**	**/pig sold**	

2.09 Boar Replacement

	225.0	kg/boar (cull weight)	
x	$60.00	/100 kg live	
=	$135.00	/boar value of cull	
	$1,200.00	/boar value of replacement	
-	$135.00	/boar value of cull	
=	$1,065.00	net replacement cost	
x	50.00	% boar culling rate	
x	30	number of boars	
÷	600	number of sows	
÷	23.01	pigs/sow	
=	**$1.16**	**/pig sold**	

2.10 Property Taxes:

	$4,500	total taxes	_____
+	13,804	pigs marketed	_____
=	**$0.33**	**/pig sold**	_____

2.11 Interest on Operating Cost:

$$\frac{\text{Subtotal Operating Cost} \times \text{Farrow-to-Farrow Period}}{365} \times \frac{\text{\% Interest}}{2}$$

	365	days per year	_____
+	2.35	litters/sow	_____
=	155	days farrow-to-farrow	_____
	$24.64	subtotal operating	_____
x	155	days farrow to farrow	_____
+	365	days per year	_____
x	6.0	% operating interest rate	_____
+	2	average	_____
=	**$0.31**	**/pig sold**	_____

B. Fixed Costs

3. Depreciation: $\frac{\text{Original Cost - Salvage Value}}{\text{Useful Life}}$

3.01 Buildings

	$541,248	building cost (including earthen manure storage)	_____
-	$47,325	salvage value (building only)	_____
+	20	years useful life	_____
+	13,804	pigs marketed	_____
=	**$1.79**	**/pig sold**	_____

3.02 Equipment

	$426,412	equipment cost	_____
-	$42,641	salvage value	_____
+	10	years useful life	_____
+	13,804	pigs marketed	_____
=	**$2.78**	**/pig sold**	_____

4. Investment:

$$\frac{\text{(Original Cost + Salvage Value)}}{2} \times \text{Investment Rate}$$

4.01 Land Cost

	$10,000	land investment	_____
+	$30,000	site preparation	_____
x	4.0	% investment rate	_____
+	13,804	pigs marketed	_____
=	**$0.12**	**/pig sold**	_____

4.02 Buildings

	$541,248	building cost (including earthen manure storage)	_____
+	$47,325	salvage value (building only)	_____
+	2	average	_____
x	4.0	% investment rate	_____
+	13,804	pigs marketed	_____
=	**$0.85**	**/pig sold**	_____

4.03 Equipment

	$426,412	equipment cost	
+	$42,641	salvage value	
+	2	average	
x	4.0	% investment rate	
+	13,804	pigs marketed	
=	**$0.68**	**/pig sold**	

4.04 Breeding Stock

	$246,000	value of breeding stock	
x	4.0	% investment rate	
+	13,804	pigs marketed	
=	**$0.71**	**/pig sold**	

C. Labour

	135.0	hours/week	
x	52	weeks/year	
x	$14.00	/hour	
+	600	sows	
+	23.01	pigs/sow	
=	**$7.12**	**/pig sold**	

Summary of Purchased Feeds Us

Number of Sows	**600**
Total Pigs Fed	**14,086**

	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig (kgs)	Total per Pig (lbs)
Dry Sow	438.84	36.57	31.15	68.68
Lactating Sow	169.20	14.10	12.01	26.48
Boar	27.38	2.28	1.94	4.28
Creep	14.09	1.17	1.00	2.20
Total	**649.50**	**54.13**	**46.11**	**101.65**

Summary of Home Feed Ingredients Used

	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig (kgs)	Total per Pig (lbs)
Wheat	0.00	0.00	0.00	0.00
Barley	0.00	0.00	0.00	0.00
Corn	0.00	0.00	0.00	0.00
Soybean Meal	0.00	0.00	0.00	0.00
Canola Meal	0.00	0.00	0.00	0.00
Peas	0.00	0.00	0.00	0.00
Creep Premix	0.00	0.00	0.00	0.00
Sow Micro Premix	0.00	0.00	0.00	0.00
Grower Micro Premi	0.00	0.00	0.00	0.00
Canola Oil	0.00	0.00	0.00	0.00
Whey Powder	0.00	0.00	0.00	0.00
Herring Meal	0.00	0.00	0.00	0.00
Plasma	0.00	0.00	0.00	0.00
Limestone	0.00	0.00	0.00	0.00
Dical (16% Ca-21% I	0.00	0.00	0.00	0.00
Salt - 96%	0.00	0.00	0.00	0.00
Phytase	0.00	0.00	0.00	0.00
L-Lysine HCL	0.00	0.00	0.00	0.00
L-Threonine	0.00	0.00	0.00	0.00
DL-Methionine	0.00	0.00	0.00	0.00
Oats - Steam rolled	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**
Total	**649.50**	**54.13**	**46.11**	**101.65**

For further information contact your local MAFRI office.

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